RETYPE

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Dear Wright,

I am still pursuing the elusive Pu model, and if you would be so kind, you can help things along a bit. I have no way of knowing whether or not you ever examined the data from the Pu patients individually or just as they appear in La-1151, as a group. I may be going over well-ploughed ground, but it does seem that one might come up with some worthwhile information if the blood, urine and fecal data for each person were collected, tabulated, and graphed, and some least squares fits attempted. I have done this with some already, and it appears that the urine is parallel to blood after the first few hours (time to achieve equilibrium protein binding) and if feces are translated back in time so that the peak elimination coincides with day 0-1, then there is a rough parallelism in that case also.

Can you give me???

1) The HP numbers of the three data points taken after the first year,

2) Any blood or excretion data for HP-11, body weight, anything.

3) Anything you have on your designated case Chi-I, (Chicago case 3, not published in CH-3607). The Chi-I identification pertains to Tables 6 (urine) and 9 (feces). If you don't have the original data, whom may I contact?

4) Confirmation on the following puzzle. 1) You designate the Chicago cases Chi-I, II, and III. There is a mix up. Russell and Nickson's case 1 was a male, followed for 155 days, U and F collected separately throughout. He was given 6.5 ug of Pu and had an epithelioma of the mouth with lung metestases. His liver was normal and weighed 2050 g. He excreted more than 2% of Pu on day 1.

Their case 2 was a female with breast carcinoma and liver metastases. She received 94.9 ug of Pu and died 16 days later. U and F were inseparable. Her liver weighed 1110 g and contained very little Pu. Her excereta is tabulated designated Chi-III in Table 6, but her tissues and liver are tabulated as Chi-II in Tables 3 and 4.

The 155-day case shows as Chi-II in Table 3, and as Chi-I in Tables 3 and 4. I think I have unscrambled the thing correctly. Please have someone do an independent check.

5) Tell me if you really think that it is valid to hang inhalation exposures onto the tail of the injected-patients curve. Unless we can assume that all Pu absorbed into the body after inhalation is absorbed within a few days after exposure, and thereafter none is absorbed, there should be a continuous blend-in. Hally mentioned this objection a long time ago, and I must confess it has always puzzled me. But now I think I know enough to question this procedure on more than intuitive grounds.

In looking for the original data on Cal-I, who by the way was a very nearly normal specimen, I ran across two other people who were given Pu by the Crocker group and a third, that appears to have received Am-241. None of the material was summarized, and all that seems to exist is the raw data sheets. In addition, we found last year in a search of all the materials available, some slide material that seemed suspicious. I have a single slide with some undecalcified bone on it about the size of a human rib cross-section. All that Ken Scott can tell us indicates that this was taken from Cal-I. We also have some biopsy specimens from Cal-II, undecalcified, unstained mounted sections that rendered an autoradiograph on x-ray film. We are going to get the Chem group to do pulse height analyses to indetify the Pu isotope, Cal-I got 238, and II got 239, and then we can do some autbradiographs.

The third Pu case got 238, and such a tiny amount that the bone samples were below the then limit of detectability, but the counting results, bad as they are are not out of line with your estimates. Better still, the injections was i.m. as Pu+6 and about 50% was absorbed in 4 days. This value seems good.

The last case seems to have gotten Am, also i.m., and although I have not had time to go over it carefully, absorption in 2 days seems nearly complete, Am in isotonic saline at pH about 4. Bone is in line with animal experiments, urine was too low to measure with their crude methods, but feces contained detectable amounts suggesting that the human liver will eliminate Am.

So much for exciting news. I'm sorry you took off before the NCRP meeting, and we missed seeing you. Bear up, your year as Health Physics Soc. chief, is rapidly slipping away, and will be over before you know it.

Best regards,

Patricia W. Durbin